REMARKS

A reconsideration is requested of Claims 1-6, wherein Claims 5 and 6 have been amended.

As an initial matter, the drawings stand objected to for failing to show every feature of the invention as specified in the claims. As a result, a borescope and cleaning tool 8 are now shown in the figures. The specification has been amended as well to reflect this change. No new matter has been added. In addition, the reference number 5 has been added to Figure 2. An annotated copy of the drawings showing the changes, as well as a replacement drawing, are being submitted concurrently herewith. Accordingly, withdrawal of the drawing objections is respectfully requested.

On page 2 of the Official Action, the Examiner has refused to enter the changes to paragraphs [0002] and [0005]. As a result, Applicants have again amended paragraphs [0002] and [0005] to effect these changes.

On page 3 of the Official Action, the Examiner objects to the claims. As a result, Claims 5 and 6 have been amended to clarify the claims. Claims 5 and 6 have not been amended to change the scope of the claims.

Claims 1-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by German Patent 198 01 804. In addition, Claims 1-2 and 6-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,668,162 to *Cederwall*.

The present invention, as defined in independent Claim 1, pertains to a component of a fluid flow machine including a plurality of cooling channels for passage of a cooling

medium. At least one inspection aperture through which an inspection of the interior of the component is made possible is also included. The inspection aperture is arranged and dimensioned such that it forms a dust discharge aperture for dust or dirt particles contained in the cooling medium.

An object of the present invention is to provide a hollow component of a fluid flow machine in such a manner that both inspection of the component and also reduction of the danger of a blockage of the cooling air bores can be implemented in a simple manner. To achieve this object, the present invention combines an inspection aperture with a dust discharge aperture into a single aperture. This is accomplished by arranging and dimensioning the inspection apertures such that they also form dust discharge aperture for dust or dirt particles contained in the cooling medium.

It is known to one having ordinary skill in the art that an inspection aperture must have dimensions which allow the insertion of an inspection tool like a borescope through the aperture in order to inspect the interior of the hollow component. In addition, in the field of fluid flow machines, one having ordinary skill in the art knows the necessity of dimensioning and arranging dust discharge apertures. Discharge apertures are not mere apertures having diameters which allow the passage of dust; in contrast, dust discharge apertures must be placed in a correct position within the cooling channels in order to fulfill the intended function of dust extraction. One having ordinary skill in the art would understand that dust discharge apertures use inertia of the dust particles within the cooling medium to extract such particles. To this end, the dust discharge apertures must be

arranged at deflections of the cooling channels in an orientation and position that the dust particles, due to their inertia, enter into the aperture instead of flowing with the cooling medium through the deflection. Apertures in the walls of the cooling channels arranged in other positions of the cooling channels do not cause the extraction of dust particles, and therefore, such apertures would not be recognized as dust discharge apertures to one having ordinary skill in the art.

DE 198 01 804 discloses a cooling system for a turbine blade, wherein in addition to the cooling air bores, one or more inspection apertures are arranged in the walls of the cooling channels (see reference numbers 22, 30 and 64). However, these inspection apertures are arranged in positions which do not allow the dust particles to be extracted due to their inertia when flowing with the cooling medium, in contrast to the apertures as shown for example in Figures 1 and 2 of the present application. The inspection apertures of DE 198 01 804 are not recognized as dust discharge apertures and would not fulfill the function of such apertures. As such, DE 198 01 804 fails to disclose inspection apertures and positions within the cooling air channels which allow these apertures to serve as dust discharge apertures. Accordingly, withdrawal of rejections based on DE 198 01 804 is respectfully requested.

Similarly, *Cederwall* fails to disclose the patentable features of independent Claim 1. *Cederwall* discloses an adaptable cooling control system for a turbine shroud and rotor. One part of the fluid flow path 64 interconnecting the compressor discharge plenum 22 with the turbine section 14 serves as a fluid flow control passage 74, which has a pre-

selected fixed diameter. An elongate member 76 accessible externally of the engine has a stem, which extends into the first fluid flow control passage 74. Cooling air enters an annular cooling passage 70 through a plurality of orifice passages 72 in the nozzle support case 48 and through the clearance 82 between the elongate members 76 and the fluid control passage 74. Changing the dimensions of the exchangeable elongate member 76, the flow of the cooling air to the "to be cooled components" can be changed.

The Examiner refers to component 50 of the fluid flow machine as a "to be cooled component" comprising plural cooling channels 86 for the passage of the cooling medium. However, Applicants respectfully submit that the interior part of the component 50 does not allow for inspection. In particular, the aperture remaining after removing the elongate member 76 does not reach an inner part of the component 50, but only to the outer wall. In column 5, lines 36-31, *Cederwall* refers to a borescope hole for the second stage turbine 54 which is sealed by the elongate member 76. From the figures, however, it is not clear how the inspection of this component can be achieved. The only possibility is that after removing the elongate member 76, a borescope can be used to access the space between the components 50 and 54 in order to inspect the outer wall of the component 54. As such, *Cederwall* fails to disclose the feature of "at least one inspection aperture through which an inspection of the *interior* of the component is made possible", as defined in independent Claim 1. In addition, *Cederwall* does not disclose or suggest inspection apertures arranged such that at the same time they discharge apertures for dust or dirt particles contained in

the cooling medium. Therefore, the component of independent Claim 1 is not disclosed in the document to *Cederwall*.

For at least the foregoing reasons, it is submitted that the component of independent Claim 1, the claims depending therefrom, is patentably distinguishable over the applied documents. Accordingly, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should any questions arise in connection with this application or should the Examiner believe a telephone conference would help in resolving any remaining issues pertaining to this application, the undersigned requests that she be contacted at the telephone number listed below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: December 3, 2003

By: Elaine P. Spector
Elaine P. Spector
Registration No. 40,116

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620